

ANALYSIS OF DIFFERENCES AMONG FIVE DIFFERENT PLAYING ROLES IN WATER-POLO ACCORDING TO THE TYPE AND BURDEN INTENSITY DURING LEAGUE COMPETITION

Abstract

The aim of this work is to determine the differences between playing roles in the vertical and horizontal phase during a match in the situational conditions with regard to the ways, intensities, frequencies and time representing indicators of burden equivalent in a game. The entities in this experiment were the parts of water-polo match. The players' activities during the match were monitored through the process of registration of quantity and intensity of their movement. The frequencies and quantity of the passed area of the playing ground expressed in meters were registered. Different activities were realized by different swimming techniques, different intensities with models of slow, submaximal and maximal. Playing with a player plus/minus and the number and duration of duels were measured. The movements and intensities in the horizontal and vertical position were successively measured during water-polo players' participation in a game. The duels, being supermaximal burden in the vertical phase and playing with a player plus/minus, being the maximal burden in the vertical phase of a game were measured to estimate the vertical component. On the basis of directly measured variables, some new variables referring to intensities, frequencies and the time spent in the game with a player plus/minus and the total number of actions and the total amount of swam laps in meters were obtained. A number of 11 variables have been left for final analysis. All the variables statistics were calculated during all playing roles and the variance analysis (ANOVA) and the Post-hoc analysis according to Sheffe were realized, too. The differences for five different playing roles in connection with the number of actions, levels of burden and the amount of motion, both in horizontal and vertical phase of a game, were established and explained. The results obtained by the Post-hoc analysis made it possible to recognize differences according to playing positions and together with it to explain the things they shared with or which were opposite to other playing roles. The authors constructed the original instrument, in other words, the system for registration, testing, monitoring and analysis of the horizontal and vertical component during participation in playing in water-polo.

Key words: *water-polo, burden, vertical phase, horizontal phase, variance analysis, post-hoc analysis according to Scheffe*